

**AMENDMENTS TO THE CLAIMS:**

**Please cancel claims 1-17, 26, and 28-37 and amend the claim as follows:**

1. -37. (Canceled)

38. (Currently Amended) A method of thermally treating a magnetic layer of a wafer, comprising:

annealing, for a predetermined short duration, a magnetic layer of a single wafer;

applying at least one local magnetic field to said magnetic layer obtained without making electrical contact to the wafer; and

cooling the single wafer using argon,

wherein said annealing comprises heating only a local area on the single wafer at a temperature of 280 degrees C for 60 seconds in the presence of a magnetic field using a rapid thermal anneal (RTA) lamp,

wherein said applying a magnetic field to said magnetic layer is conducted after said annealing and comprises applying local fields in different directions to different areas of the single wafer, and

wherein said single wafer comprises a magnetic stack formed thereon, said magnetic stack having a structure of ~~50 TaN/50Ta/175PtMn/15CoFe/9Al/50Py/100TaN~~  
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